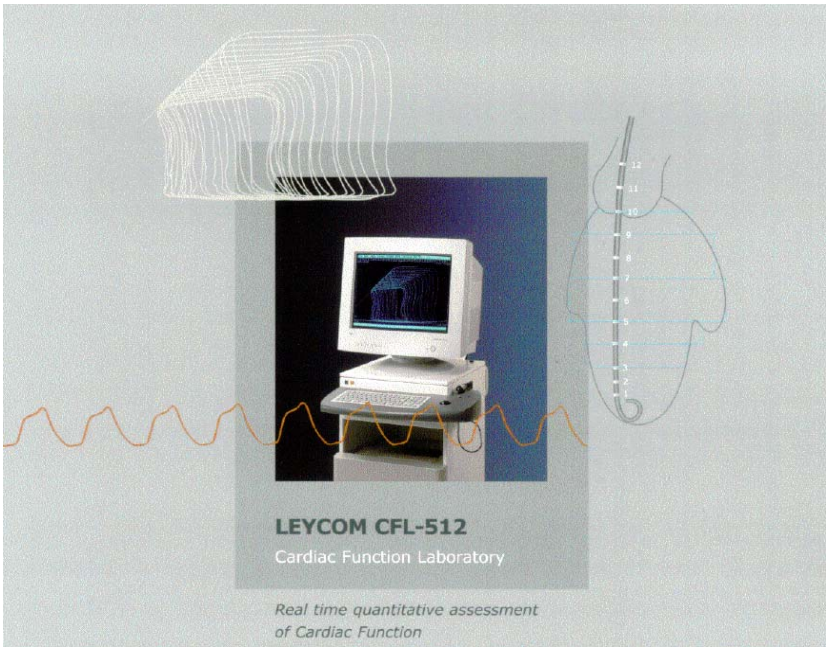
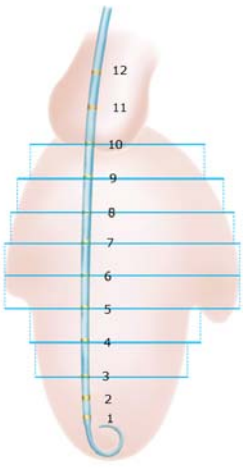


The **LEYCOM® Cardiac Function Lab CFL-512** facilitates the on-line measurement and analysis of ventricular pressure and volume signals in clinical setting. The pressure and volume signals are obtained using a combined conductance and pressure catheter. The CFL-512 acquires and displays these signals on-line and continuously. The signals are digitized, stored and can be subsequently played back and analyzed the users convenience.



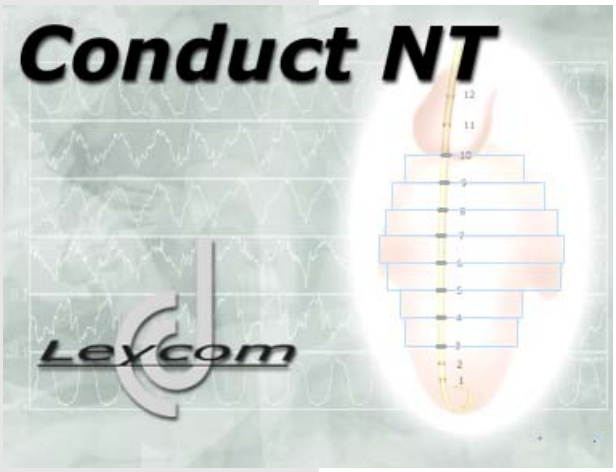
The **Leycom® CFL-512** is a stand-alone device, which can be easily used in different clinical environments. The system, including the software for data acquisition and analysis, has been developed in close co-operation with a group of clinical users of **Leycom®** equipment.

The **Leycom® CFL-512** consists of a bedside 'patient module' and a console. The bedside 'patient module' is a state of the art, battery powered, data acquisition module. The module, to which the conductance catheter is connected, contains sophisticated circuitry, which ensures optimal patient safety and extended battery life.
The 'patient module' is communicates with the **Leycom® CFL-512** console via a fibre optic cable; this provides complete patient isolation from electrical hazard.
The *dedicated computer* is Intel Pentium based, has a 40 Gb harddisk, enough for hundreds of hours of data acquisition, at 12 channels and 250 samples per second.

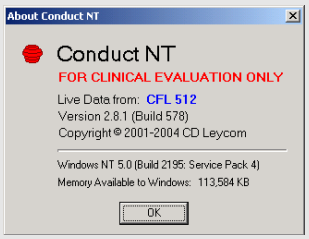
With the **Leycom® CFL-512** software, time-varying ventricular volume, pressure, ECG, a large number of hemodynamic variables and Pressure-volume loops can be displayed. The slope and intercept of the end-systolic pressure-volume relation (a measure of ventricular performance) are calculated, as well as other related variables.

CFL-512

Conduct NT – for clinical evaluation only

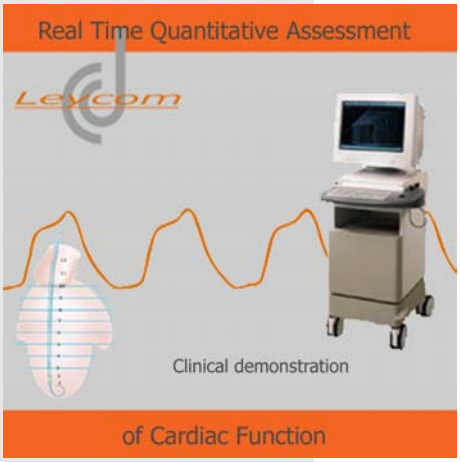


A Microsoft Windows based acquisition, display and analysis program has been developed for the Leycom® CFL-512. The Leycom® CFL-512 is the clinically approved system for quantitative cardiac function assessment in humans.
The new program, Conduct NT, replaces and radically improves upon the old DOS based 'Conduct 2000' for the Leycom® CFL-512.


About Conduct NT
Conduct NT
FOR CLINICAL EVALUATION ONLY
Live Data from: CFL 512
Version 2.8.1 (Build 578)
Copyright © 2001-2004 CD Leycom
Windows NT 5.0 (Build 2195: Service Pack 4)
Memory Available to Windows: 113,584 KB
OK

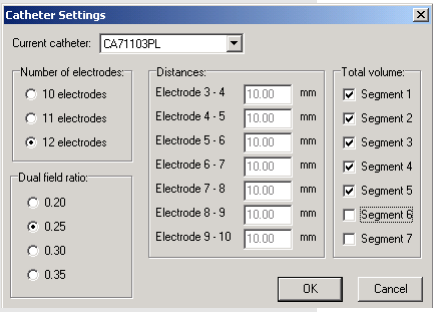
Features

- Dyssynchrony calculation for each segment
- Many calculated indices, displayed in real time
- Operator independent parallel conductance calculation
- Ability to show calibrated data in real time
- Improved screen and reports printouts
- Analysis of large files
- Easier to 'grab' screens for presentations or publications
- Improved study management
- Extended patient data input screen
- Extended views



Usage in the clinical setting:

- The quantitative assessment of systolic and diastolic heart failure
- Determination of heart failure treatment strategy
- Calculation of ventricular mechanical dyssynchrony
- To guide pacing strategies
- Status assessment of congenital heart disease
- Evaluation of surgical procedures (DOR procedure, mitral valve repair)
- Monitoring critical patients peri-operatively

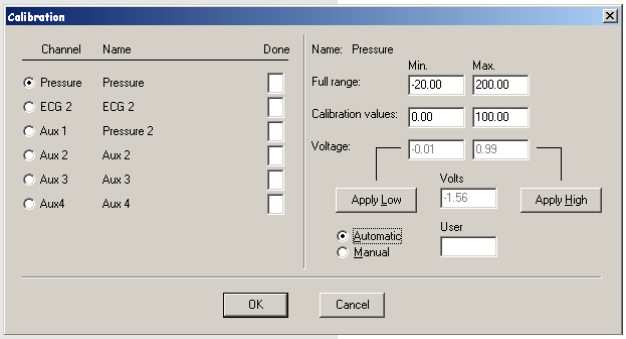


Conductance Catheter Settings

Match the catheter with the actual heart size, exclude individual segments and optimize the dual field setting.

Rho measurement

The Rho cuvette is used to measure blood resistivity from a blood sample. Blood resistivity is required for the calibration of the volume measurements. The Rho cuvette is connected to the connector on the right side of the CFL-512. When the Rho cuvette is filled with 5 ml of blood the display will show the measured blood resistivity. By pressing the button next to the display this value is stored internally and used in the real-time volume calculation.

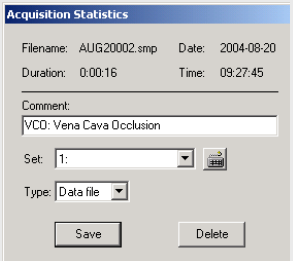


Calibration

Calibration of the volume signals from the conductance catheter is automatic. However, the 6 user defined signals connected to the external inputs, Pressure, ECG 2, Aux1, Aux2, Aux3 and Aux4 require initial calibration to enable the software to convert input signal voltages to user units (e.g. mmHg).

Display

Select display-mode and time-base for an optimal view of your chosen signals. View 'Segmental Volumes' to check and optimise the (segmental) volume signals. Use views with 'PV-Loop' to monitor the pressure-volume loops from beat to beat. Use views with 'Indices' to display real-time the calculated indices. Use 'Dyssynchrony' view to assess mechanical ventricular dyssynchrony.

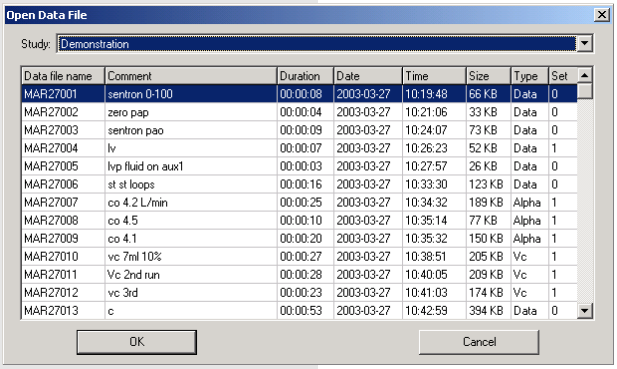


Acquire Data

Start data acquisition by clicking 'Acquire'. An audible signal every 1 s reminds the user that acquisition is in progress. Stop data acquisition by clicking acquire again. Enter a comment at the end of each acquisition run.

CFL-512

Conduct NT – Analyse Recorded Data

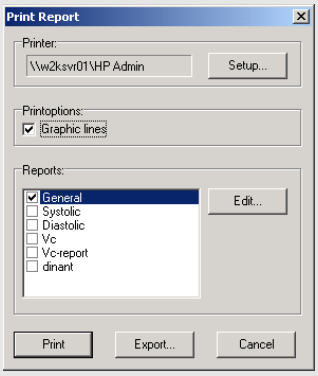


Select data file

Retrieve previously acquired data files for subsequent analysis.
The comment and some file characteristics are displayed in the list.

Pressure-volume analysis

The end-systolic and end-diastolic PV points are indicated with markers (blue and green lines). Appropriate (user-selected) functions can be fitted through these points taken and varying pressures and volumes to calculate contractility and compliance.



Print Report

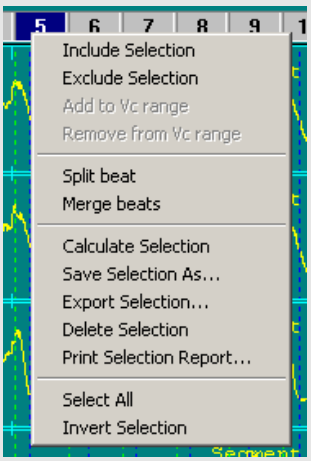
Create your own print reports with indices. Select the reports you want to print.
Use the short-cut button to print the latest report.

Indices

Create your own indices-display by selecting the indices that are available in the list. Conduct NT has more than 50 parameters in his list of indices.

Volume calibration

Vc calculation (parallel conductance)
Vc will be calculated automatically from the data acquired during a hypertonic saline injection.
Alpha calculation
To correct the underestimation of true volume, the results measured by the conductance catheter should be compared to the results of an independent cardiac output measurement, thermodilution, echo or angiography for example.



Additional features in Conduct NT.....

- Interval measurement
- Several filters can be used
- Exporting data and indices to comma-separated file
- Beat to beat analysis
- Complete file management
- Signals can be individually scaled.

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CFL-512

Highlights

Hardware

Console

- Pentium, 1 GHz with 256 Mb RAM
- Dedicated hardware for:
  Acquisition of external signals
  Communication with patient module
  Patient module battery management
- Monitor, NEC Multisync XP 1750
- Data storage, 40 GB harddisk
- 250 Mb Zip drive
- Laser printer, HP LaserJet 2100
- Drip-proof keyboard with trackball and two buttons

Patient module

- All settings are software controlled
- Catheter connector: 16 pole Binder
- Battery powered to ensure patient safety
- More than 180 min continuous use when fully charged
- Communication with console via fiber optic cable
- AD conversion: 250 samples/sec, 12 bit

Patient safety

- Battery powered patient module
- Communication via fiber optic cable
- Inductive battery charger

Software

Conduct NT

- Real-time display
  various display modes
  variable time-base
- Several filters
- Data acquisition
  automatic file naming
  attached comments
  250 samples/sec, 12 bit accuracy
  8 internal (patient module) and 6 external channels
- Calibration of external signals
  conversion to user units
  optimize resolution
- Display of acquired data
- Calculation of calibration factors for conductance-volume
- Analysis of pressure-volume relations
- Calculation of hemodynamic indices
- Print/save graphs and own reports
- Printer settings
- Data export

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